

ACCESSION NR: AT4041479

in this regime, combustion of the annular air layer containing fuel vapors and droplets starts from the outer surface of the layer which is not adjacent to the recirculation zone. This situation appears to be favorable for obtaining improved temperature profiles at the chamber outlet. The flow resistance is also lower, since secondary air jets do not have to penetrate into the axial combustion region as is the case with a conventional location of the combustion zone. However, a tendency to oscillatory burning was observed. Orig. art. has 7 figures.

ASSOCIATION: none

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Card 2/2

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GOREBUNOV, G.P., VIZE, V. Yu., GORBATESKIY, O.V., CORODKOV, B.M. and SAKS, V.N.

"The Soviet Arctic, Seas and Islands," a physical-geographical  
description, Moscow-Leningrad, 1946

Translation 716225, no date

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GORBUNOV, G. V., OSTAPENKO, N. G.

Furnaces, Electric Welding

Resistance welding of pegs to slag screen tubes of boilers. Elek. sta. 23 no. 3, 1952.  
Inzh.

Monthly List of Russian Accessions, Library of Congress, July 1952. UNCLASSIFIED.

OSTAPENKO,M.O.; LEBEDEV,V.K.; GORBUNOV,G.V.; LITVINCHUK,M.D.

Spot electric welding of pipelines. Visnyk AN URSR 26 no.5:  
49-50 My '55. (MIRA 8:8)  
(Electric welding) (Pipelines)

*GORBUNOV, G.V.*

PATON, B.Ye.; GORBUNOV, G.V.; LEBEDEV, V.K.; OSTAPENKO, N.G.; LITVINCHUK, M.D.

Resistance welding of main pipelines. Avtom.svar. 10 no.6:19-27  
N-D '57.  
(MIRA 11;1)

1. Ordena Trudovogo Krasnogo Znameni Institut elektrosvarki im.  
Ye.O. Patona AN USSR.

(Electric welding ) (Pipelines--Welding)

AUTHORS: Lebedev, V.K., and Gorbunov, G.V. SOV 125-53-3-3/15

TITLE: Short-Circuit Resistance of Butt-Machines and the Stability of the Flash-Welding Process (Soprotivleniye korotkogo zamy-kaniya stykovoy mashiny i ustoychivost' protsessa oplavleniya)

PERIODICAL: Avtomaticheskaya svarka, 1958, Nr 3, pp 18-23 (USSR)

ABSTRACT: The effect of short-circuit resistance of butt-machines on the stability of the flash-welding process is discussed. Results of experiments are given and illustrated by drawings. In the case of fixed feed rate of the welded parts, the fusion process is stable if current and power increments are of the same sign. In the case of an extremely steep external characteristic of the butt-machine, stable fusion is impossible and it is useless to develop current stabilizers for controlling the transformer voltage. Higher short-circuit resistance of the machine necessitates higher minimum-voltage of welding in order that the fusion will proceed uniformly. The effect of active resistance on the stability of the process is stronger than that of inductive resistance. The fusion of parts of different dimensions takes place at the same current density and voltage, if  $rS$  and  $xS$  are constant (where  $r$  is the active and  $x$  is the reactive short-circuit resistance and  $S$  is the

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SOV 125-58-3-3/15

Short-Circuit Resistance of Butt-Machines and the Stability of the Flash..  
Welding Process

cross section of welded parts.

There are 5 graphs, 1 table, 2 oscillograms and 5 Soviet  
references.

ASSOCIATION: Ordena Trudovogo Krasnogo Znameni Institut elektrosvarki  
imeni Ye.O. Patona AN USSR (Institute of Electrowelding  
imeni Ye.O. Paton, AS UkrSSR, Bearer of the Labor Order  
of the Red Banner)

Card 2/2 SUBMITTED: April 7, 1956

1. Flash welding machines--Electrical properties    2. Flash welding  
machines--Performance    3. Flash welds

| Gorbunov, G.V.

25(1) PAGE 1 FOR INFORMATION 50V/3422

Akademika Nauk (MENR), KLYU, Institut elektrosvarki i metal'nikov Ye.O. Petona  
Tehnicheskoye sprosobor oznacheniya i proizvodstvennosti, 772, 2 (Fabrication or  
New Welding Methods in Industry); Collection of articles, No. 2 Klyu, Sov.  
Svob. tushin. 11-677 Urzheinaya Senn., 1959. 194 p. Metal'nyi alip' imern.

5,000 copies printed.

M. I. V. Gorbunov; Tech. Ed.: S. S. Smetanovich.

PURPOSE: This book is intended for workers in the welding industry.

CONTENTS: The book contains a discussion of welding techniques and problems by groups of scientists and welders. Much attention is given to problems in the application of new methods of mechanized welding and electro-alloy welding. It is the second collection of articles under the same title prepared and published by the Institute elektrosvarki i metal'nikov Ye.O. Petona (Institute of Electric Welding) (lead Ye.O. Peton). The preface is written by B.Ye. Peton, Academician of the Ukrainian Academy of Sciences and Winner of the Lenin Prize.

There are no references.

Ishchenko A. A. [Instructor], Yu. A. Shashchikova [Candidate of Technical Sciences], V. M. Khondzha [Doctoral Candidate] Institute elektrosvarki i metal'nikov Ye.O. Petona (Electro-welding Institute) lead Ye.O. Peton], D. P. Kostylev [Instructor] Institute elektrosvarki i metal'nikov Ye.O. Petona (Electro-welding Institute) lead Ye.O. Peton], V. I. Rabinovich [Instructor] Bureau of metal'nyi alip' imern. (Metal'nyi alip' imern.) 1977 served (Metallurgical Plant); K. V. Chetvertikov [Instructor] Metal'nyi alip' imern. (Metal'nyi alip' imern. (Metallurgical Plant)) Electro-alloy welding shop, General Director of Special-Purpose Construction 17

Ishchenko A. A. [Senior Instructor], A. M. Mihailov [Candidate of Technical Sciences], N. N. Kozulin [Senior Instructor] Institute elektrosvarki i metal'nikov Ye.O. Petona (Electro-welding Institute) lead Ye.O. Peton]. Metal'nyi alip' imern. S. O. Ordzhonikidze (Podol'sk Machine Plant) lead S. O. Ordzhonikidze Steel Plant, Equipment by Electro-alloy welding of Medium-Alloyed Steel Products 28

Ishchenko A. A. [Candidate of Technical Sciences], A. N. Slobomnikov [Instructor] Institut elektrosvarki i metal'nikov Ye.O. Petona (Electric Welding Institute) lead Ye.O. Peton], and I. N. Gordeev [Candidate of Technical Sciences], Podol'sk plant only mechanized factory served lead S. O. Ordzhonikidze (Podol'sk Machine Plant) lead S. O. Ordzhonikidze]. Electro-alloy welding of large flanges of shipbuilding, Antarctic Steel

Gorbunov S. M. [Candidate of Technical Sciences], T. P. Mikhalevich [Instructor] Teplosvarki S. D. Zelenbergen [Instructor] Institute elektrosvarki i metal'nikov Ye.O. Petona (Electric Welding Institute) lead Ye.O. Peton], P. B. Simesh [Instructor] (lead of Welding Office), and V. P. Shevchenko [Instructor] of a workshop, Electro-alloy automatic arc welding of Medium and Large thicknesses of iron and steel products 32

Ishchenko A. A. [Candidate of Technical Sciences], V. P. Subbotovskiy [Senior Instructor], I. F. Protsik [Candidate of Technical Sciences] director of electro-alloy welding shop, O. N. Tsvetkov [Instructor] Institute elektrosvarki i metal'nikov Ye.O. Petona (Electro-welding Institute) lead Ye.O. Peton], I. A. Volkov [Instructor] (Institute of a Research and Development Center) New technique of straight-seam welding of large-diameter Oil and Gas Pipe 36

Gorbunov G. V. [Instructor] Institute elektrosvarki i metal'nikov Ye.O. Petona (Electro-welding Institute) lead Ye.O. Peton], G. L. Novikov [Instructor] (Institute of a Research and Development Center) New technique of straight-seam welding of large-diameter Oil and Gas Pipe 38

Ishchenko A. A. [Candidate of Technical Sciences], S. I. Medved' [Instructor] Institut elektrosvarki i metal'nikov Ye.O. Peton], V. P. Subbotovskiy [Instructor] (Institute of a Research and Development Center) New technique of straight-seam welding of large-diameter Oil and Gas Pipe 40

Gorbunov G. V. [Instructor] (Institute of a Research and Development Center) New technique of straight-seam welding of large-diameter Oil and Gas Pipe 42

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Gorbunov G. V. [Instructor] (Institute of a Research and Development Center) New technique of straight-seam welding of large-diameter Oil and Gas Pipe 66

PATON, B.Ye., akademik; GORBUNOV, G.V., inzh.; LEREDEV, V.K., kand. tekhn. nauk;  
OSTAPENKO, N.G., kand. tekhn. nauk; LITVINSCHUK, M.D., inzh.

Resistance welding of main trunk pipelines. Svar. preizv. no.2:1-5  
F '59. (MIRA 12:1)

I.Institut elektresvarki imeni Ye.O. Patona AN USSR.  
(Pipelines--Welding) (Electric welding)

**GORKUNOV, G.V.**

## PHASE I BOOK EXPLOITATION

SOV/5078

Akademija nauk UkrSSR, Kijev. Instytut elektrosvarkivaniya  
 Vydannye novykh sposobov svarki v promyshlennost' sbornik statey.  
 Vyp. 3. (Introduction of New Welding Methods in Industry; Collection of Articles, v. 3) Kijev, Gos. Izd-vo tekhn. literatury.  
 Nauk. i tekhn. literatury. 1960. 207 p. 5,000 copies printed.

Sponsoring Agency: Ordens Prudovogo Krasnogo Znameni Institut  
 elektrosvarki imeni akademika Ye. O. Patona Akademii nauk  
 Ukrainskoj SSR.

Ed.: M. Pisarenko; Tech. Ed.: S. Matusevich.

PURPOSE: This collection of articles is intended for personnel in the welding industry.

Coverage: The articles deal with the combined experiences of the Institute of Electrowelding, Institute Ye. O. Paton (Electric Welding Institute), and several industrial enterprises in solving scientific and engineering problems in welding technology. Problems in the application of new methods of mechanized welding and electroslag welding in industry are discussed. This is the third collection of articles published under the same title. The Foreword was written by B. Ye. Paton, Academician of the Academy of Sciences Ukrainian SSR and Lenin Prize Winner. There are no references.

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FEDYNSKIY, V.V., doktor fiziko-matem. nauk, red.; SHIROKOV, A.S., red.; KO-  
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nauchn. red.; FEDYUK, V.I., nauchn. red.; KOTLYAREVSKIY, B.V.,  
nauchn. red.; POMERANTSEVA, I.V., nauchn. red.; MOZZHENKO, A.N.,  
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nauchn. red.; BOGDANOV, A.Sh., nauchn. red.; NIKITSKIY, V.Ye., nauchn.  
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nauchn. red.; FEL'DMAN, I.I., nauchn. red.; POMETUN, D.Ye., nauchn.  
red.; BEKMAN, Yu.K., ved. red.; VORONOVA, V.V., tekhn. red.

[Status and prospects for developing geophysical methods for mineral  
prospecting] Sostoianie i perspektivy razvitiia geofizicheskikh meto-  
dov poiskov i razvedki poleznykh iskopаемых; materialy. Pod red. V.V.  
Fedynskogo. Moskva, Gos. nauchno-tekhn. izd-vo neft. i gorno-toplivnoi  
lit-ry, 1961. 623 p. (MIRA 14:11)

1. Nauchno-tekhnicheskaya geofizicheskaya konferentsiya, Moscow, 1959.
2. Ministerstvo geologii i okhrany nedor SSSR (for Fedynskiy, Petrov).  
(Prospecting—Geophysical methods)

GORBUNOV, I.; TATARINOV, M.Ye., redaktor; ANDRIANOV, B.I., tekhnicheskij  
redaktor

[Aviation in the national economy] Aviatsiya v narodnom khoziaistve, Moskva, Izd-vo DOSAAF, 1956. 63 p. [Microfilm]  
(Aeronautics) (MIRA 9:3)

GORBUNOV, I.

Air transport in the plans of the North Atlantic Treaty Organization.  
Grashd.av.13 no.11:38 N '56.  
(North Atlantic Treaty Organization)  
(Aeronautics, Military)

(MLRA 10:2)

GORBUNOV, I.

Introduce vibration boring in road surveying. Avt.dor. 22  
no.11:20-21 N 159.  
(Boring) (Roads--Surveying) (MIRA 13:2)

GORBUNOV, I.

Demonstration lessons for a self-defense group. Voen.znan.  
34 no.12:20-21 D '58. (MIRA 12:2)  
(Air defenses) (Civil defense)

GORBUNOV, I.

Three layer coal extraction in the Cheremukhovo mines. Mast.ugl.  
4 no.9:28 S'55. (MLRA 9:1)

1. Inzhener Upravleniya Irkutskogo okruga Gosudarstvennogo gorno-  
tekhnicheskogo nadzora SSSR  
(Cheremukhovo Coal Basin--Coal mines and mining)

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*GORBUНОV*  
GORBUNOV, I.

The Papin dynasty. Mast. ugl. 6 no.8:4 Ag '57. (MIRA 10:9)  
(Donets Basin--Coal miners) (Papin, Andrei Timofeevich, 1875-)

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CIA-RDP86-00513R000516110015-1"

GORBUNOV, I.A. (Leningrad).

Review of the book "Medical examination of physical fitness; a manual for physicians" in 3 vols. Khirurgia no.3:79-83 Mr '53. (MLRA 6:6)  
(Diagnosis)

GORBUNOV, I. A.

"Clinical treatment and capacity for work following gastric resection  
in ulcers." F. I. Karamyshev. Reviewed by I. A. Gorbunov. (MIRA 9:1)  
Sov. med. 19 no.11:92-95 N '55.  
(PHYSICAL FITNESS) (STOMACH--SURGERY)  
(KARAMYSHEV, F.I.)

GORBUNOV, I.A.

Casing for circular pendulum saws. Rats. i izobr.predl. v strel.  
no.116:9 '55. (Circular saws) (MSEA 9:7)

GORBUНОV, I.A.

Using a core-gluing press to glue planed veneer. Der i lesokhim.  
prom. 3 no.8:23-24 Ag '54. (MLRA 7:8)

1. Kuybyshevskiy mebel'nyy kombinat.  
(Plywood industry)

GERBUNOV, I.A.

1)

PHASE I BOOK EXPLOITATION SOV/5658

Ivanov, Aleksandr Petrovich, Candidate of Technical Sciences, and  
Viktor Dmitriyevich Lisitsyn, Candidate of Technical Sciences,  
eds.

Modernizatsiya kuznechno-shtampovochnogo oborudovaniya (Modernization  
of Die-Forging Equipment) Moscow, Mashgiz, 1961. 226 p.  
Errata slip inserted. 10,000 copies printed.

Reviewer: V. Ye. Nedorezov, Candidate of Technical Sciences; Ed.  
of Publishing House: T. L. Leykina; Tech. Ed.: A. A. Bardina;  
Managing Ed. for Literature on Machine-Building Technology  
(Leningrad Department, Mashgiz): Ye. P. Naumov, Engineer.

PURPOSE: This book is intended for foremen, machinists, designers,  
and process engineers concerned with the modernization and de-  
signing of die-forging equipment. It may also be used by students  
at schools of higher education.

COVERAGE: The book contains material presented at the Conference

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Modernization of Die-Forging Equipment

SOV/5658

on Problems in the Modernization and Operation of Die-Forging Equipment, held in November 1958 in Leningrad. The Conference was called by Leningradskiy Sovet narodnogo khozyaystva, Sektsiya obrabotki metallov davleniem Leningradskogo oblastnogo pravleniya NTO Mashprom (Leningrad Council of the National Economy, Section of Metal Pressworking at the Leningrad Oblast Board of the Scientific and Technical Society of the Machine Industry) and Leningradskiy mekhanicheskiy institut (Leningrad Mechanical Engineering Institute). Actual problems in the modernization, operation, and repair of die-forging equipment are described. Analyses are provided for problems involved in the mechanization and automation of die-forging and stamping operations. Also included are practical data to be used in the modernization of equipment. No personalities are mentioned. There are 59 references: 56 Soviet, 2 German, and 1 English.

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11-7-61

GORBUNOV, I.A.; GULYAYEV, R.K. (Lugansk)

Work experience of S.I. Vorotnikov's brigade of communist  
labor. Ugol' 39 no.8:23-26 Ag '64. (MIRA 17:10)

1. Nachal'nik shakhty No.1 tresta Kommunarskugol' kombinata  
Luganskugol' (for Gorbunov).

USSR/Soil Science - Cultivation. Improvement, Erosion.

J

Abs Jour : Ref Zhur Biol., No 22, 1958, 100103

Author : Gorbunov, I.F.

Inst : Moldavian Branch AS USSR

Title : Dynamics of the Agricultural Physical Properties of the Central Moldavian Chernozems Depending upon the Methods and Depth of Plowing. (Preliminary Report.)

Orig Pub : Izv. Mold. fil. AN SSSR, 1957, 9 (42), 105-107

Abstract : Investigations were conducted on chernozems of ordinary slightly-humus loams of average thickness in the Strashevskiy Rayon of the Moldavian SSR. The following methods of soil cultivation were compared: the usual 20-cm moldboard plowing, the deep 40-cm moldboard plowing and the 40-cm plowing without a moldboard on fallow and under corn (1954-1956). The total friability was

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USSR/Soil Science - Cultivation. Improvement, Erosion.

Abs Jour : Ref Zhur Biol., No 22, 1958, 100103

greatest at deep molboard plowing and least at deep plowing without a moldboard. Substantial changes of the soil structure were not noted. On the fallow, during deep moldboard plowing, more moisture is accumulated and is energetically dispersed; with ordinary moldboard plowing, it is just the reverse. Deep plowing without a moldboard takes up a middle position. Under corn, in dry weather, more moisture is accumulated and is stored at deep plowing wothout a moldboard, and in the humid period more moisture is accumulated and is stored on deep moldboard plowing. -- F.I.  
Shcherbak

Card 2/2

Gorbunov, I. G.

ATAMANCHUKOV, G.D.;GORBUNOV, I.G.;DUDKIN, I.A.

Experimental data on pressure-operated rosin-extracting batteries.  
Gidroliz. i lesokhim.prom. 8 no.5:18-19 '55. (MLRA 9:1)

1.TSentral'nyy nauchno-issledovatel'skiy lesokhimicheskiy institut  
(for Atamanchukov). 2.Novo-Belitskiy lesokhimicheskiy kombinat (for  
Gorbunov, Dudkin).

(Gums and resins)

GORBUNOV, I.

B

15

Minimum Amount of Crystalline Substances Mixed With Amorphous Ones Which May Be Determined by X-Ray Methods. (In Russian.) I. I. Gorbunov and I. G. Tsyurupa. *Doklady Akademii Nauk SSSR* (Reports of the Academy of Sciences of the USSR), new ser., v. 65, Mar. 1, 1949, p. 81-84.

The above was investigated for different types of soil. Results are presented in a comprehensive table.

AER-15A METALLURGICAL LITERATURE CLASSIFICATION

BOOK NUMBER  
SERIAL NUMBER

GORBUNOV, I.I., inzh.

Machine for automatic groving of the collectors. Elek. i tepl.  
tiaga 14 no.3:17-19 Mr '60. (MIRA 13:?)

1. Master elektromashinnogo tsekha depo Irkutsk II Vostochno-Sibirs'koy dorogi.  
(Electric railway motors)

BADAR'YAN, G.G.; TYUTIN, V.A.; CHEREMUSHKIN, S.D.; ZUZIK, D.T.; KHODASEVICH, B.G.; FRAYER, S.V.; GUSAROV, Ye.I.; KAZANSKIY, A.M.; KASSIROV, L.N.; KARAYEV, S.A.; AHRAMOV, V.A.; VASIL'YEV, N.V.; BUGAYEV, N.F.; SAPIL'NIKOV, N.G.; KASTORIN, A.A.; RUDNIKOV, V.N.; YAKOVLEV, V.A.; PEREMYKIN, V.I.; ISAYEV, A.P.; KUZ'MICHEV, N.N.; IL'IN, S.A.; PRONIN, V.A.; LUK'YANOV, A.D.; SHAKHOV, Ya.K.; IL'ICHEV, A.K., kand. sel'-khoz. nauk; KOGAN, A.Ya.; TSINKOV, M.Yu.; BABIY, L.T.; GORBUNOV, I.I.; KOVALEV, A.M.; ROMANCHENKO, G.R.; BRODSKAYA, M.L., red.; IVANOVA, A.N., red.; GUREVICH, M.M., tekhn. red.; TRUKHINA, O.N., tekhn. red.

[Economics of agriculture]Ekonomika sotsialisticheskogo sel'skogo khoziaistva; kurs lektsii. Moskva, Sel'khozizdat, 1962.  
710 p. (MIRA 15:10)

(Agriculture—Economic aspects)

GORBUNOV, I.P.; GLUKHOV, V.P.; KOTLUKOV, K.G.; MOSKALEV, V.D.; SIPAYLOV,  
Yu.A.; SMYAN, N.K.; SHUTOV, M.I.; BYKOV, S.G., red.; XANEVSKAYA,  
M.D., red.; BLAZHENKOVA, G.I., tekhn.red.

[Training methods for members of civil air defense groups] Meto-  
dika podgotovki lichnogo sostava grupp samozashchity. Moskva,  
Izd-vo DOSAAF, 1959. 165 p. (MIRA 13:3)

1. Vsesoyuznoye dobrovol'noye obshchestvo sodeystviya armii,  
aviatsii i flotu.

(Air defenses)

GORBUNCV, I.T., inzh.

Delivering ballast in dump cars equipped with hinged panels.  
Transp. stroi. 15 no.2:5-8 F '65. (MIRA 18:3)

GORBUNOV, K.

Speed-up the turn-over in the use of airplanes. Grazhd. av. 13  
no.10:28-29 0 '56. (MIRA 10:1)

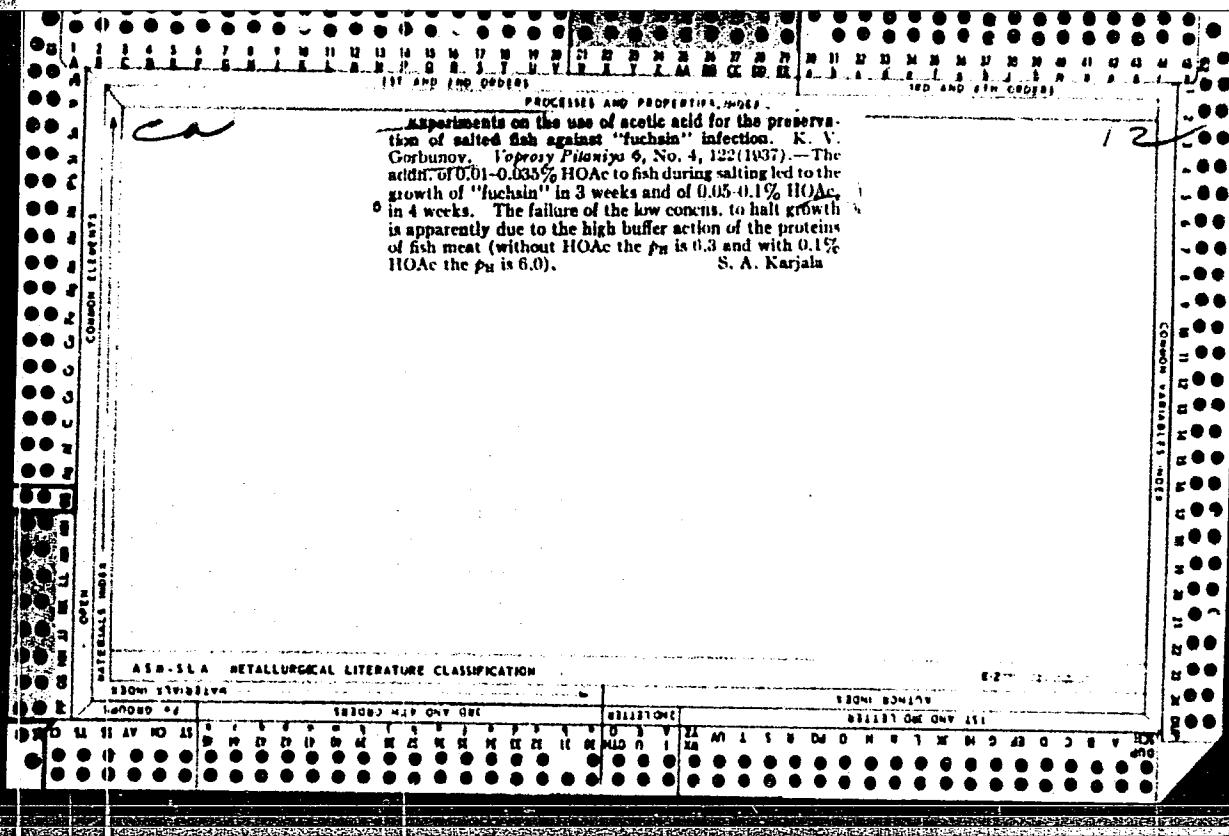
1. Nachal'nik Zapadnogo territorial'nogo upravleniya Grazhdanskogo  
vozdushnogo flota.  
(Aeronautics, Commercial)

7.30  
REACTION OF HYDROGENATED PHOSPHITES  
WITH METALIC NICKEL IN VACUUM  
CONDITIONS AND SOME RELATED TOPICS

The process of chemical nickel reduction from vapors containing hypophosphite resulting in the formation of dense brilliant platings of arbitrary thickness on surfaces catalyzing this reaction is studied in great detail. The material compiled up to the present characterizing condition of this complex catalytic reaction may be considered as the basis that the first step of the process is a hypophosphite decomposition with formation of atomic H which reduces Ni. The parallel reactions occur forming molecular H leading to the cyclolysis in a gaseous form and the reaction of atomic H on hypophosphite with the formation of elemental P which interacts with Ni in the formation of a new bath.

OKOROKOV, Mikhail Alekseyevich; SHULIN, Nikolay Ivanovich; GORBUNOV,  
K.N., red.; KISELEVA, T.I., red.izd-va; ISLEN'T'YEVA, P.G.,  
tekhn.red.

[Signaling, interlocking, and communication system in mine  
transportation] Ustroistva STaB i sviazi na vnutrishakhtnom  
transporte. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po  
chernoi i tavetnoi metallurgii, 1959. 316 p. (MIRA 12:8)  
(Mine railroads) (Railroads--Signaling--Interlocking systems)  
(Mine communications)



21

Copper sulfate as an antiseptic in the production of enzymes from fish inner organs. N. G. Gudanov. *Mikrobiologiya* (U. S. S. R.) 8, No. 1, 122 (1939). *Akadem. Konserv. Zbir.* 1939, No. 11, 110. Proteolytic enzymes for use in hakes are prep'd. from fish inner organs predominantly fermented at 30° for 12-24 hrs. An attempt was made to find antiseptic substances which would stop putrefaction during this fermentation without lowering the enzymic activity of the product. Substances investigated included HCl, Acetil, trichloroethylene, toluene, CHCl<sub>3</sub>, NaCl, (NH<sub>4</sub>)<sub>2</sub>SO<sub>4</sub>, HgCl<sub>2</sub>, CuSO<sub>4</sub>, and CuSO<sub>4</sub>·5H<sub>2</sub>O. Optimum results were obtained with CuSO<sub>4</sub>. The remaining substances, except the mixt. of toluene with chloroform, were unsuitable. Addn. of 0.10-0.15% of CuSO<sub>4</sub>·5H<sub>2</sub>O is effective.  
W. R. Henn

Chair of Tech., Astrakhan  
Tech. Inst. Fish Industry

GOREUNOV, K. V.

LC

USSR/Medicine - Bacteria - Cellulose Apr 1946  
Medicine - Water Supply

"Cellulose-decomposing Bacteria as a Link in the Ma-  
trition Chain of Fresh Water Reservoirs," K. V. Gor-  
bunov, Astrakhan State Fish Preserve, 4 pp

"Mikrobiologiya" Vol XV, No 2

PA 40T42

Cellulose-decomposing bacteria in fresh water reser-  
voirs play the part of agents preparing the dead vegeta-  
ble matter for the nutrition of some groups of water  
animals, in particular the Chironomidae; and in decom-  
posing cellulose they simultaneously transform the  
mineral biogenic substances in the water and bottom  
into a form available for animal nutrition. Experi-  
ment

40T42

USSR/Medicine - Bacteria - Cellulose Apr 1946  
(Contd.)

ments show that the Chironomidae are able to complete  
their entire life cycle by being fed exclusively on  
pure cultures of cellulose-decomposing bacteria.

40T42

GORBUNOV, K. V.

Cand Biolog Sci

Dissertation: "Decomposition of the Remnants of Higher Water Plants and its Ecological Role in the Lower Zone of the Volga River Delta." 28/4/50

Inst of Microbiology, Acad Sci USSR

SO Vecheryaya Moskva  
Sum 71

GORBUNOV, K.V.

Astrakhan State Preserve (Reservation).

"Spread of the Azobacter chroococcum in water reservoirs and the soil of the Volga delta and its significance as a factor of productivity."

SC: MIKROBIOLOGIA, Vol. 20, No. 3, May/June 51.

GORBUNOV, K.V.

Decomposition of remains of higher water plants and its ecological  
role in ponds of the lower region of the Volga Delta. Trudy Gid-  
robiol.ob-va 5:158-202 '53. (MLRA 7:5)

1. Astrakhanskiy gosudarstvennyy zapovednik.  
(Volga Delta--Biology) (Biology--Volga Delta)

GORBUNOV, K.V.; BONDARENKO, A.D.

Honey-yielding zones of the Volga Delta. Bot. zhur. 38 no.4:582-584 Jl-Ag '53.  
(MIRA 6:9)

1. Astrakhanskiy Gosudarstvennyy zapovednik.  
(Volga Delta--Honey plants) (Honey plants--Volga Delta)

~~GORBUNOV, K.V.~~

Dynamics of benthos and bottom accumulation in distributaries  
of the lower zone of the Volga Delta, and their role in feeding  
young of carp. Trudy Gidrobiol. ob-va no.6:80-103 '55.  
(MLRA 8:9)

(Volga Delta--Fresh-water Biology)

*Gorbunov et al.*

GORBUNOV, K.V.; KOSOVA, A.A.

Preparation of artificial nutritive detritus from cellular  
tissue for chironomid culture. Mikrobiologiya 24 no.4:444-  
446 Jl-Ag '55. (MLRA 8:11)

1. Astrakhanskiy gosudarstvennyy zapovednik.  
(DIPTERA) (CELLULOSE)

*GORBUNOV, K.B.*

GORBUNOV, K.B.

Correlation between aerobic and anaerobic processes in water strata  
and soils of delta meadows [with summary in English]. Mikrobiologija  
26 no.2:210-221 Mr-Ap '57. (MIRA 10:10)

1. Astrakhanskiy gosudarstvennyy zapovednik.

(SOIL, microbiol.

aerobic & anaerobic processes in water layer & meadow  
soils, correleation (Rus))

(WATER SUPPLY, microbiol.  
same)

USSR/Microbiology - General Microbiology. Water and Air  
Microorganisms.

F

Abs Jour : Ref Zhur Biol., No 22, 1958, 99341

Author : Gorbunov, K.V.

Inst :

Title : On the Relationship Between Aerobic and Anaerobic Pro-  
cesses in One Layer of Soil of a Bottom Land.

Orig Pub : Mikrobiologiya, 1957, 26, No 2, 210-217

Abstract : In the years 1952 and 1953, in the soil (at a depth of 0 to 20 cm) and in the bottom land water of Granushinyy Ilmen, in the Volga River delta the following were determined: the number of bacteria by the direct method (according to Vinogradskiy), the number of colonies in seedings on fish-peptone agar, under aerobic and anaerobic conditions (according to Shturm), the O<sub>2</sub>, pH, Eh, and rH<sub>2</sub> content. Prior to flooding, in the soil of the bottom land aerobic processes (rH<sub>2</sub> 27.8) predominated,

Card 1/2

USSR/Microbiology - General Microbiology - Water and Air  
Microorganisms.

F

Abs Jour : Ref Zhur Biol., No 22, 1958, 99341

changing abruptly to anaerobic ones after its flooding  
(rH<sub>2</sub> up to 13.12), which led to a reorganization of the  
whole biological complex of the bottom land, and a dis-  
placement of a series of food organisms to the very sur-  
face of the water; this, it seems, is reflected in the  
behavior of fish that feed on plankton and overgrowths.  
-- A.S. Razumov

Card 2/2

- 39 -

KUROCHKIN, Yu.V.; GORBUNOV, K.V.; KOBLITSKAYA, A.F.

Cases of disease and mass death of fishes in the lower part of  
the Volga Delta. Trudy sov.Ikht.kom. no.9:153-155 '59.  
(MIRA 13:5)

1. Astrakhanskiy gosudarstvennyy zapovednik.  
(Volga Delta--Carp--Diseases and pests)

KUROCHKIN, Yu.V.; GORBUNOV, K.V.

Study of carp pox (*epithelioma papulosum cyprinorum*). Trudy sov.  
Ikht.kom. no.9:156-157 '59. (MIRA 13:5)

1. Astrakhanskiy gosudarstvennyy zapovednik.  
(Volga Delta--Carp--Diseases and pests)

BRUMSHTEYN, M.S.; VISHNEVETSkiY, F.Ye.; GORBUNOV, K.V.; KOBLITSkAYA, A.F.; KRINITSkiY, V.V.; KUROCHkIN, Yu.V.; MOSkALENKO, A.V.

Causes of mass disease of the common carp in the Volga Delta;  
preliminary report. Vop.ikht. no.14:175-181 '60. (MIRA 13:8)

1. Astrakhanskiy gosudarstvennyy zapovednik i kafedra patologicheskoy anatomiI Astrakhanskogo meditsinskogo instituta.  
(Volga Delta--Carp--Diseases and pests)  
(Water--Pollution)

*For BUNOV, K.V.*

Among the titles and authors of papers and other expected participants at the 15th International Conference of Limnology in Padich, Vietnam, 20-25 Aug 82, are the following:

- GYAPOVAYA, N. R., Malinovskiy College of Fishery, Kaliningrad - "The role of high aquatic plants in trophic cycles of fresh water bodies" (connection).  
 ASTRAKHAN, V. V., Astrakhan State Reservation, Astrakhan - "The role of cellulose bacteria in biological productivity of water bodies" IVLEV, V. B., Sebastopol Biological Station IZEN, A. O., Kovalevsky, Sevastopol - "The transformation of energy on the highest trophic levels of production process and characteristics of fish production" (Review Paper, Session II).  
 KOPIN, Nina Vital'yevna, Laboratory of Forestry, Academy of Sciences USSR - "The tropic of water bodies on different stages of their historical development".  
 KROGIUS, P. V., Kasachka Department, Pacific Institute of Marine Fishery and Oceanography - "On the connection of flowing down of young fish of red salmon with the condition in a lake".  
 KRECHEN, Yevgeny Mikhaylovich, Kasachka Department, Pacific Institute of Marine Fishery and Oceanography - "The influence of a discretion of marine life of red salmon production on the phosphate regime of spawning lakes".  
 KURZUMOV, Sergey Emorovich, Institute of Microbiology, Academy of Sciences USSR - "The role of microorganisms in the destruction of organic substances in a water body" and "Microcomposition-processes, results and limnological significance, microbiological". Plenary Session IV.  
 MACHADOWA, Nat'yan', Dr., Hydrobiology Station, Sevan, Armenia USSR - [was accepted invitation but has not submitted paper].  
 PANKRATOV, V. Ya., Zoological Institute, Academy of Sciences USSR - "On the evolution of cyclopoids larvae (Cyclopoidae) in connection with the conditions of existence of Limnology".  
 RASPOER, I. M., Laboratory of Limnology, Academy of Sciences USSR - "On the main concepts and directions of hydrochory in the Soviet Union".  
 ROMINA, A. G., Zoological Institute, Academy of Sciences USSR - "Hydrobiology of the deserts of lakes".  
 ROZDUDKO, L. I., Institute of Geography, Academy of Sciences USSR, and GLAZITS, Grigoriy Z., Siberian Department of the Academy of Sciences USSR - "The lake Daynal".  
 SOKOLOV, O. M., Limnological Institute, Siberian Department of the Academy of Sciences USSR - "The ice region of the basin of Lake Baikal".  
 SROGOVSKIY, N. B., Biological Faculty, Moscow University, Moscow - "Influences of small concentrations of pollutants on the role of organisms", and "On the question of the influence of sewage on waters".  
 VORONIZZI, K. K., Limnological Institute, Siberian Department, Academy of Sciences USSR - "Turn over of the organic matter and some biogenic elements in the Baykal lake".  
 YAROVSKAYA, Aleksandra Ivanova, Zoological Institute, Academy of Sciences USSR - "The fauna of high mountain water bodies of Middle Asia".  
 ZHABIN, V. I., Zoological Institute, Academy of Sciences USSR - "Migration of the radioactive phosphorus at fertilizing water bodies".  
 ZHURAVLE, P. A., Dnepropetrovsk Scientific Institute of Hydrobiology of the State University, Dnepropetrovsk - "Accumulation of fishes food organisms from the fauna of estuary complex (of the river Donets) in water reservoirs of

GORBUNOV, K.V.

Yield of alcohol from the fruit of water chestnut (*Trapa natans L.*)  
fermented with pure and mixed yeast cultures. Trudy Astr. zap.  
no.5:83-85 '61. (MIRA 16:8)  
(Volga Delta--Water chestnut) (Yeast) (Alcohol)

GORBUNOV, K.V.; KOSOVA, A.A.

Food relations of young fishes in the bayous of the lower Volga  
Delta. Trudy Astr. zap. no.5:86-150 '61. (MIRA 16:8)  
(Volga Delta--Fishes--Food)

GOREUNOV, K.V.

Economic coefficient in aerobic and anaerobic decomposition of  
cellulose. Mikrobiologiya 31 no.4:702-707 JI-Ag '62.  
(MIRA 18:3)

1. Astrakhanskiy gosudarstvennyy zapovednik.

GORBUNOV, K.V.

Dynamics of the development of microbiological processes in the bodies of water of the lower part of the Volga Delta. Trudy Gidrobiol. ob.sva 13:94-125 '63. (MIRA 16:11)

1. Astrakhanskiy gosudarstvennyy zapovednik.

GORBUNOV, K.V.

Basic characteristics of the change in the natural complex of the bodies of water in the Volga Delta and outer delta. Sidrobiti.  
zhur. I no.3:13-23 '65. (MIRA 18:6)

I. Astrakhanskiy tekhnicheskiy institut rybnoy promyslennosti i khozyaystva, Astrakhanskiy zapovednik.

GORBUNOV, L.

More on collective farm income tax. Fin. SSSR 23 no.4:65-66  
Ap '62. (MIRA 15:4)

1. Starshiy inspektor Kalininskogo rayonnogo finansovogo otdela  
Kalininskoy oblasti.  
(Kalinin Province--Collective farms--Taxation)

KAPYSHEV, A.G.; VENEVTSOV, Yu.N.; SOLOV'YEV, S.P.; GORBUNOV, L.A.;  
ZHDANOV, G.S.

X-ray chambers for high-temperature studies. Zav. lab. 30 no.10;  
1274-1276 '64. (MIRA 18:4)

1. Nauchno-issledovatel'skiy fiziko-khimicheskiy institut imeni  
Karpova.

GORBUNOV, L.M. (Moskva)

Isochronous suspension of a pendulum in a clock. Prikl. mat.  
i mekh. 24 no.5:824-830 S - 0 '60. (MIRA 14:3)  
(Pendulum)  
(Clocks and watches)

"APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000516110015-1

GORBUNOV, L.M.

Absorption of hyperacound in dielectrics in the case of a temperature gradient. Fiz.tver.tela 3 no.7:2051-2053 Jl '61. (MIRA 14:8)  
(Dielectrics--Thermal properties)

APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000516110015-1"

40386

8/020/62/145/006/009/015  
B183/B102

24.2120

AUTHORS: Silin, V. P., and Gorbunov, L. M.

TITLE: Kinetics of a non-isothermal plasma

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 145, no. 6, 1962, 1265-1268

TEXT: The influence on the transfer coefficients of a non-isothermal plasma due to electrons and ions interacting with the plasma waves is considered. Slightly damped sonic waves of  $T_e \gg T_i$  can exist in a non-isothermal plasma, and their effect on the kinetic coefficients of the plasma can be calculated. In this case it is sufficient to take the polarization coefficient into account when calculating the collisions of the electrons among themselves. Only when  $T_e/T_i > 10^4$  does it become necessary to include the polarization effects in calculating the electron-ion and ion-ion collisions. The complicated electron-electron collision integral which takes account of polarization is obtained by expanding the distribution function. The following expressions are got by solving the set of equations for the coefficients of the Sonin-Laguerre series used:

Card 1/3

Kinetics of a non-isothermal ...

S/020/62/145/006/009/015  
B183/B102

$$j = \frac{e N_e \times T_e}{m_e} \left\{ \frac{1}{v_{\phi\phi}} \left[ \frac{eE}{\pi T_e} - \frac{\partial \ln N_e T_e}{\partial r} \right] - 5,1 \frac{1}{I v_0} \frac{\partial \ln T_e}{\partial r} \right\} \quad (17)$$

for the current density,

$$q = \frac{N_e (\pi T_e)^{1/2}}{m_e / v_0} \left\{ 5,1 \left[ \frac{eE}{\pi T_e} - \frac{\partial \ln N_e T_e}{\partial r} \right] - 21,2 \frac{\partial \ln T_e}{\partial r} \right\} \quad (18)$$

for the heat flux and

$$\eta = 1.81 \frac{\kappa^T_e}{v_0 I} N_e \quad (23) \quad \checkmark$$

for the viscosity, where

$$\nu_{\phi\phi} = \frac{4}{3} \frac{e^2 e_i^2 N_e \sqrt{2\pi}}{(\pi T_e)^{1/2} \sqrt{m_e}} \ln(k_{max}^{eff} r_D) \quad (19),$$

$$v_0 = \frac{4}{3} \frac{N_e e^4 \sqrt{2\pi}}{(\pi T_e)^{1/2} \sqrt{m_e}} \quad (7) \text{ and}$$

Card 2/3

Kinetics of a non-isothermal ...

S/020/62/145/006/009/015  
B183/B102

$$I \approx \frac{1}{2} \left| \frac{e_i}{e} \right| \frac{T_e}{T_i} \frac{1}{\ln \left[ \frac{e_i^2 M_i T_e^3}{e^2 m_e T_i^3} \right]} \quad (16).$$

ASSOCIATION: Fizicheskiy institut im. P. N. Lebedeva, Akademii nauk SSSR  
(Physics Institute imeni P. N. Lebedev of the Academy of Sciences USSR)

PRESENTED: February 17, 1962, by I. Ye. Tamm, Academician

SUBMITTED: February 2, 1962

Card 3/3

ACCESSION NR: AP4020563

S/0057/64/034/003/0385/0394

AUTHOR: Gorbunov, L.M.; Silin, V.P.

TITLE: Theory of transport phenomena in a completely ionized non-isothermal plasma

SOURCE: Zhurnal tehnicheskoy fiziki, v.34, no.3, 1964, 385-394

TOPIC TAGS: plasma, plasma transport phenomena, plasma resistivity, plasma heat conductivity, plasma viscosity, nonisothermal plasma transport, completely ionized plasma, plasma oscillation, plasma oscillation electron interaction

ABSTRACT: The current density, heat flux, and viscosity are calculated for a completely ionized plasma in which the electron temperature,  $T_e$ , may differ from the ion temperature,  $T_i$ . In addition to two-body collisions, the interaction of the charged particles with the plasma oscillations is taken into account. This interaction is found to play a dominant role when  $T_e \gg T_i$ . The transport coefficients are calculated by the method of Chapman and Enskog. The kinetic equation, with a previously published collision integral (V.P.Silin, ZhETF, 1768, 1962) that takes into account the polarization of the plasma, and hence the plasma oscillations, is linearized with respect to small deviations of the distribution function from a local-

Card 1/3

ACCESSION NR: AP4020563

ly Maxwellian form. The correction to the distribution function is expanded in a series of Sonine-Laguerre polynomials (of index 3/2 for calculating the current and the heat flux, and index 5/2 for calculating the viscosity) and equations are derived for the expansion coefficients. Approximate solutions of these equations are obtained, different methods of approximation being employed for various values of  $T_e/T_i$ , and the transport coefficients are calculated. When  $T_e = T_i$ , the interaction of electrons with the plasma oscillations has very little effect. When this interaction is neglected, the results of S.I.Braginskii (ZhETF 33,459,1957) and Ye.S. Fradkin (Ibid.32,1176,1957) are obtained. When  $T_e/T_i$  is between about 10 and 100, the effect of the interaction with the plasma oscillations may be treated as a correction, but it is not small. For large values of  $T_e/T_i$ , the plasma oscillation interaction becomes the dominant effect, and in the appropriate limit for very large  $T_e/T_i$ , the earlier results of the authors (V.P.Silin and L.M.Gorbunov, DAN SSSR, 145, No.6, 1962) are obtained.. Orig.art.has: 66 formulas and 1 table.

Card 2/3

ACCESSION NR: AP4020563

ASSOCIATION: Fizicheskiy institut im.P.N.Lebedeva AN SSSR Moscow (Physical Institute, AN SSSR)

SUBMITTED: 14Dec62

DATE ACQ: 31Mar64

ENCL: 00

SUB CODE: PH

NR REF Sov: 012

OTHER: 000

Card 3/3

ACCESSION NR: AP4042389

S/0056/64/047/001/0200/0211

AUTHOR: Gorbunov, L. M.; Silin, V. P.

TITLE: Nonlinear interaction between plasma waves

SOURCE: Zh. eksper. i teor. fiz., v. 47, no. 1, 1964, 200-211

TOPIC TAGS: plasma wave interaction, nonlinear plasma interaction, isotropic plasma oscillation, Langmuir plasma oscillation, plasma stability

ABSTRACT: An investigation of the nonlinear interaction between plasma waves shows that for high-frequency electron Langmuir oscillations of isotropic plasma in the first nonvanishing approximation of the exponential expansion of the square of the ratio of the Debye radius to the wavelength  $(r_D/\lambda)^2$ , a pumping from short to long waves takes place in the spectrum. The waves with parallel and mutually perpendicular wave vectors do not interact in this case. Such waves interact only in the next approximation. The energy attenuation of Langmuir oscillations appears in the same approximation. The investigation of a plasma-slow beam system with a velocity below that of

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Cord

ACCESSION NR: AP4042389

particle thermal velocity but greater than the ratio of the square of thermal velocity to the phase velocity of the oscillations shows that, when the temperature of the plasma at rest is lower than the temperature of the beam, then a pumping from higher to lower frequencies takes place, and the energy of oscillations decreases. On the other hand, when the temperature of plasma at rest is higher than the temperature of the beam, the spectral pumping proceeds from the lower to the higher frequencies. In this case the energy of the oscillations increases, i.e., nonlinear oscillations appear. The nonlinear interaction between short-wave ion-acoustic oscillations was investigated when spectral pumping was the determining effect and when nonlinear attenuation of oscillations was predominant. Orig. art. has: 30 formulas.

ASSOCIATION: Fizicheskiy institut imeni P. N. Lebedeva AN SSSR  
(Physics Institute, AN SSSR)

SUBMITTED: 29Dec63

ATD PRESS: 3065

ENCL: 00

SUB CODE: ME

NO REP Sov: 005

OTHER: 003

2/2  
Card

AUTHOR: Gorbunov, I. M., Pustovalov, V. V., Sizlin, V. F.

TITLE: Scattering of electromagnetic waves in plasmas

ABSTRACT: The scattering of waves in a plasma has been attributed to the absorption of energy by the electrons. The cross section of the scattering is proportional to the square of the wave number.

KEY WORDS: scattering, absorption, energy, electrons, wave number.

TYPE:

ABSTRACT: The scattering of waves in a plasma has been attributed to the absorption of energy by the electrons. The cross section of the scattering is proportional to the square of the wave number.

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"APPROVED FOR RELEASE: 06/13/2000

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S 15310-65 EWT(1)/ENG(1)/EPA(sp)-2/EPA(v)-2/SEC(t)/T/EEC(b)-2/EWA(m)-2  
S-6/Pb-4/Pab-10/P1-4 JF(c), SSB(u), SSB(v), SEC(t), SSB/ASB(p)-2/EEC(b),  
ACCESSION NR: AP404-611 S/0056/64/047

AUTHORS: Gorbunov, L. M.; Pustovalov, V. V.; Silin, V. P.

TITLE: Nonlinear interaction of electromagnetic waves in a plasma  
source. General experimental'noy i teoreticheskoy fiziki

TOPIC TAGS: plasma wave propagation, plasma electromagnetic wave,  
nonlinear interaction, nonlinear plasma

ABSTRACT: The theory developed is based on the equations of nonlinear  
electrodynamics, the statistical averaging of which yields a  
nonlinear equation for the evolution of electromagnetic-field fluctuations.  
The theory is applied to the problem of the generation of transverse waves in a plasma source.  
The approach is similar to that used in an earlier paper by Silin and  
and Silin. Preprint RAN. A-8, 1964; ZhETF v. 47, 1964.

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115310-65  
ACCESSION NR: AP4047911

cept that in addition to taking into account the Coulomb interaction of the plasma particles, the authors determine, in the present work, first, the role played by the formation of transverse waves due to coalescence of longitudinal waves, and second, the conditions under which the nonlinear interaction is determined by the intermediate transverse waves. The interaction between noisy longitudinal Langmuir waves in a plasma is then considered and the conditions under which scattering of the oscillations by the ions predominates determined. It is shown that this scattering can be several orders of magnitude the interaction between the oscillations of the ions. The conditions under which the time of transition from one regime to another is determined by the interaction between the oscillations of the ions are examined. This is followed by an examination of the interaction of longitudinal and noisy transverse wave to form a noise.

by a study of induced scattering of longitudinal waves. It is shown that in this case an important role is played by the interaction

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ACCESSION NR: AP4047911

with the intermediate transverse wave. The latter effect was not observed before because the analysis was either confined to the scattering by longitudinal plasma fluctuations, or to short wavelengths.

ASSOCIATION: Fizicheskiy institut im. P. N. Lebedeva Akademii nauk SSSR (Physics Institute, Academy of Sciences SSSR)

SUBMITTED: 13Apr64

ENCL: 00

SUB CODE: ME NR REF Sov. 018 OTHER: 002

Card 3/3

GORBUNOV, L.M.; SILIN, V.P.

Instability of a plasma in a strong high-frequency field.  
Zhur.eksp. i teor.fiz. 49 no.6:1973-1982 D '65.

(MIRA 1981)

I. Fizicheskiy institut im. P.N.Lebedeva AN SSSR. Submitted  
July 27, 1965.

L 25705-66 EWT(1)/ETC(f)/EPF(n)-2/ENG(m) IJP(c) AT

ACC NR: AP6002743

SOURCE CODE: UR/0056/65/049/006/1973/1982

AUTHOR: Gerbunov, L. M.; Silin, V. P.

ORG: Physics Institute im. P. N. Lebedev, Academy of Sciences SSSR (Fizicheskiy  
Institut Akademii nauk SSSR)

TITLE: Plasma instability in a strong high frequency field

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 49, no. 6, 1965,  
1973-1982

TOPIC TAGS: plasma instability, plasma electron oscillation, plasma electromagnetics,  
plasma acceleration, electron plasma

ABSTRACT: This is a continuation of earlier work by one of the authors (V. P. Silin,  
ZhETF v. 48, 1679, 1965), who showed that irrotational oscillations can be excited  
when the field frequency is of the order of the electron plasma frequency or lower.  
The problem dealt with in the present article arises in connection with the possibil-  
ity of using radiative methods for the acceleration of a transparent plasma. The  
authors analyze the stability of a plasma in a strong high-frequency field with re-  
spect to excitation of solenoidal oscillations. It is shown that the solenoidal os-  
cillations can be excited when the frequency of the external field is higher than the  
electron plasma frequency. The resultant instability arises when the amplitude of  
the electron oscillations in the external field is greater than the Debye radius. The  
wavelength perturbations are assumed to be much smaller than the characteristic

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L 25705-66

ACC NR: AP6002743

dimensions of the plasma inhomogeneity and the results show that instabilities will arise in either a transparent plasma or an opaque plasma in a strong high-frequency field. The solenoidal instabilities have a growth rate which is smaller than that of the irrotational oscillations investigated earlier. Authors thank Yu. M. Aliyev for interest in the work and A. A. Rukhadze for valuable comments. Orig. art. has: 24 formulas.

SUB CODE: 20/ SUBM DATE: 27Jul65/ ORIG REF: 007

Card 2/2

I, 33296-66 EWT(1) IJP(c) AT

ACC NR: AP6014050 SOURCE CODE: UR/0056/66/050/004/1095/1100

AUTHOR: Gorbunov, L. M.; Silin, V. P.60  
BORG: Physics Institute im. P. N. Lebedev, Academy of Sciences, SSSR  
(Fizicheskiy institut Akademii nauk SSSR)

TITLE: Scattering of waves in a plasma

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 50,  
no. 4, 1966, 1095-1100TOPIC TAGS: scattering cross section, plasma electromagnetic wave,  
plasma electron, electron density, EDDY CURRENT

ABSTRACT: In view of the fact that the scattering cross sections obtained in earlier papers by the author (ZhETF v. 47, 1437, 1964; Radiofizika v. 8, 461, 1965) lead to results that do not coincide with those obtained by others, the author presents a comparison of the results of the different approaches and demonstrates the correctness of his own procedure with the aid of the method used in the papers by others. It is shown that for a complete description of the scattering and transformation of electromagnetic waves in a plasma it is necessary to take into account not only the electron-number density fluctuation but also the fluctuations of the eddy current produced in the plasma. The

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ACC NR: AP6014050

discrepancy between the concrete results of the author's papers and those by others is connected with the fact that the wave in the plasma, is determined by both factors and not by one, owing to thermal-motion effects (spatial-dispersion effects), scattering cross section. Only when account is taken of the eddy-current fluctuations is it possible to obtain complete expressions for the scattering of longitudinal and transverse waves in the plasma. To illustrate his approach, the author analyzes the scattering of an unpolarized transverse wave with formation of a wave which is also transverse, for the case when the frequency of the waves is large compared with the Langmuir frequency. Orig. art. has: 22 formulas.

SUB CODE: 20/ SUBM DATE: 11Nov65/ ORIG REF: 013/ OTH REF: 003

Card

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2/2

L 42966-66 EWT(m)/EWP(j)/T IJP(c) WJ/JWT/HM  
ACC NR: AR6024996 SOURCE CODE: UR/0081/66/000/007/S010/S010

AUTHOR: Koshkin, N. I.; Gorbunov, M. A.; Dmitriyeva, N. A. 53

TITLE: Study of the acoustic properties of polymers by the pulse method B

SOURCE: Ref. zh. Khimiya, Part II, Abs. 7S65

REF SOURCE: Sb. Primeneniye ul'traakust. k issled. veshchestva. Vyp. 20. M., 1964, 47-53

TOPIC TAGS: ultrasound absorption, ultrasonic velocity, rubber, acoustic property

ABSTRACT: The pulse method was used to study the velocity V and absorption  $\alpha$  of ultrasound in polymeric materials: polybutyl methacrylate, compounds prepared from ED-51, epoxy resin, compounds based on the product of copolymerization of butyl methacrylate with triethylene glycol dimethacrylate, and resins based on BK, SKN, and NK in the range of -60 to +60°. A block diagram of the device employed is given. The temperature dependences of  $\alpha$  and V at frequencies of 830, 980, and 2 Mc were obtained. It was found that the velocity of the ultrasound in the rubbers decreases markedly in the range of -40 to +10°, and the absorption in the range of -30 to 20° passes through a maximum (transition from a high-elastic to a vitreous state). At higher frequencies, the absorption maximum shifts toward lower temperatures. N. Nikolayeva. [Translation of abstract]

SUB CODE: 11,20  
Card 1/1

ACC NR: AP7000803

(A,N)

SOURCE CODE: UR/0089/66/021/005/0408/0410

AUTHOR: Mitenkov, F. M.; Averbakh, B. A.; Gorbunov, L. M.; Samoylov, O. B.

ORG: none

TITLE: Contribution to the calculation of the Doppler temperature coefficient of reactivity of homogeneous reactors

SOURCE: Atomnaya energiya, v. 21, no. 5, 1966, 408-410

TOPIC TAGS: nuclear reactor characteristic, homogeneous nuclear reactor, temperature coefficient, nuclear resonance, approximate solution, computer calculation

ABSTRACT: The authors present a procedure for calculating the derivative of the resonance escape probability with respect to the temperature, or the derivative of the effective resonance integral with respect to temperature, for the case of a homogeneous reactor. The calculation is similar to that given by G. I. Marchuk (Chislennye metody rascheta yadernykh reaktorov [Numerical Methods in the Design of Nuclear Reactors], M., Atomizdat, 1961) for a heterogeneous medium. A set of plots of the derivative of the self-screening factor with respect to temperature, which is evolved in these calculations, is included in the article. This set was obtained by solving the appropriate differential equation with an Ural-2 electronic computer. Orig. art. has: '10 formulas and 1 figure.

SUB CODE: 18/ SUBM DATE: 21Dec65/ ORIG REF: 005/ OTH REF: 001

Card 1/1

UDC: 261.039.512.26

1. GOREBUNOV, L.N.; POSADOV
2. USSR (600)
4. Woolen and Worsted Manufacture
7. Problem of the new direction in the blended fabric industry. Tekst.prom. 12 no.10, 1952.
9. Monthly List of Russian Accessions, Library of Congress, January 1953. Unclassified

GORBUKOV, L.V.

Oxidation of molybdenite in natural conditions. Izv. vys. ucheb.  
zav.; tsvet. met. 7 no.6:3-6 '64. (MIRA 18:3)

1. Severokavkazskiy gornometallurgicheskiy institut, kafedra  
poleznykh iskopayemykh i poiskovo-razvedochnogo dela.

GURIYEV, T.S.; PLESHIVTSEV, A.S.; GORBUNOV, L.V.

Geothermal conditions of the Sadon complex metal deposit in the  
Northern Caucasus. Izv.vys.ucheb.zav.; geol. i razv. 8 no.2:123-  
131 F '65. (MIRA 18:3)

1. Severo-Kavkazskiy gornometallurgicheskiy institut.

158015688 FWT/11/PWT/F1/PWIS/01 10/78

ACCESSION NR: AP5015688

UR/0076/65 039 006 10015-1  
541.11

AUTHOR: Gorbunov, L. V.

TITLE: Temperature dependence of heat capacity at constant pressure and its application

SO: IBCF: Zhurnal fizicheskoy khimii v. 39, no. 6, 1965, 1345-1348

TOPIC TAGS: heat capacity, thermodynamic calculation, thermodynamics, entropy, enthalpy

ABSTRACT: The variation of the heat capacity at constant pressure with temperature is studied for a number of substances. The formula  $C_p = aT^b$  is used where  $T$  is the temperature.

base on the linear relationship between  $\log C_p$  and  $\log T$ . A similar relationship

$$C_p = aT^b$$

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ACCESSION NR: AP5015688

prevails for the average heat capacity. The constants  $a$ ,  $b$ ,  $\bar{a}$ , and  $\bar{b}$  may be determined

$$\sum_n \lg C_p = a \lg a + b \sum_n \lg T,$$

The empirical relationship obtained between  $C_p$  and  $K$  permits a fairly accurate calculation

$$S_{T_2} - S_{T_1} = a \int_{T_1}^{T_2} T^{b-1} dT, \quad H_{T_2} - H_{T_1} = a \int_{T_1}^{T_2} T^b dT. \quad (5)$$

The derived equations apply to both organic and inorganic compounds and are recommended for calculating the variation of their thermodynamic quantities.

ASSOCIATION: Severo-Kavkazskiy gornometallurgicheskiy institut (North Caucasus Mining and Metallurgical Institute)

SCIENTIFIC EDITOR:

L.S. Gulyaev

S. D. Kostylev

NO REF SOV: 003

OTHER: 001

Card 2/2 *ALP*

Gor'kogo, M.

BOUSHEV, T.A.; DEZENT, G.M.; GOBBUNOV, M. retsenzent; SURKOV, V..  
redaktor; AKIMOVA, L.D., redaktor; GOTLIB, E.M., tekhnicheskiy  
redaktor.

[Equipment for manufacturing ice cream] Oborudovanie dlja  
proizvodstva morozhenogo. Moskva, Pishchepromizdat, 1955. 136 p.  
(Ice cream industry) (MLRA 8:12)

GORBUNOV, M., inzhener; KOBULASHVILI, Sh., inzhener; TKACHEV, N., inzhener.

Refrigeration industry in France. Khel.tekh.33 №.1:42-53 Ja Mr '56.  
(MIRA 9:7)

(France--Refrigeration and refrigerating machinery)(France--Cold  
storage warehouses)

GORBUНОV, M.

Production and use of reedwork panels in Kazakhstan. Stroi.mat. 4  
no.5:28-31 My '58. (MIRA 12:4)

1. Zamestitel' predsedatelya Svetiа Ministrov Kazakhskoy SSR.  
(Kazakhstan--Reed (Botany))

45438

8/058/63/000/001/110/120

A062/A101

27.4000

AUTHORS: Gorbunov, M. A., Derkovskiy, M. M., Koskin, N. I.TITLE: Experimental study of acoustical properties of human blood in  
view of cancer diagnosis.PERIODICAL: Referativnyy zhurnal, Fizika, no. 1, 1963, 71, abstract 1Zh422  
(In collection: "Primeneniye ul'trakvant. k issled. veshchestva".  
no. 16, Moscow, 1962, 191 - 197)TEXT: Systematic studies of blood have allowed to establish a relation  
between a number of its physico-chemical properties and certain pathological  
states of the organism. In the reported work an attempt is made to determine  
the change of the acoustical properties of blood (velocity v and coefficient of  
absorption) in cancer diseases. There was studied a newly prepared serum, ob-  
tained by centrifugation of blood at a temperature of 4°C during 20 min. at  
200 revolutions/min. The volume of the studied substance was 10 cm<sup>3</sup>. The meas-  
urements were carried out by a phase-pulse method, the measurement accuracy of  
v was 0.3%, the frequency - 5.45 Mc/s. There was studied blood of the group A(II)

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Experimental study of...

S/058/63/000/001/110/120  
A062/A101

of a donor and of a patient having stomach cancer with no revealed metastases. With a view to get a precise definition of the character of the disease, blood serums were additionally studied after X-ray irradiation by a dose of 50,000 roentgen. It was found that in all cases in the 20 - 82°C temperature range increases linearly with the temperature increase, the rate of increase falling after 42°C, which is related to the change of the albuminous blood structures. In the donor's blood serum  $\gamma$  is larger than in the blood serum of the sick. At 28°C the velocity difference  $\Delta v_1 = 10 \text{ m/sec}$ , for a non-irradiated serum, and  $\Delta v_2 = 14 \text{ m/sec}$ , for an irradiated serum. At 70°C  $\Delta v_1 = 20 \text{ m/sec}$  and  $\Delta v_2 = 18 \text{ m/sec}$ . The donor's blood serum has a temperature coefficient greater by 0.4 m/sec. degree for the non-irradiated serum and by 0.2 m/sec. degree for the irradiated one. The temperature of thickening  $T_1$  of the donor's blood serum is higher than that of the patient  $T_2$ . For a non-irradiated serum  $T_1 = 82^\circ\text{C}$ ,  $T_2 = 72^\circ\text{C}$ ; for an irradiated serum  $T_1 = 72^\circ\text{C}$ ,  $T_2 = 68^\circ\text{C}$ . A conclusion is made on the possibility of diagnosing various diseases, particularly cancer diseases, by the method of ultrasonic studies of albuminous systems. There are 11 references.

[Abstracter's note: Complete translation]

I. Kanevskiy

Card 2/2

GORBUNOV, M.A.; KOSHKIN, N.I.; NOZDREV, V.F.; SHELOPUT, D.V.

Use of ultra-acoustic methods in studying organic substances  
in the liquid - polycrystal transition region. Ukr. fiz. zhur.  
(MIRA 16:1)  
7 no.8:898-905 S '62.

1. Moskovskiy oblastnoy pedagogicheskiy institut im. N.K.Krupskoy.  
(Absorption of sound) (Organic matter)

GORBUNOV, M.A.

For technical improvement of commercial refrigerating equipment.  
Khokh. tekhn. 38 no.2±1-3 Mr-Ap '61. (MIRA 14:3)

1. Nachal'nik upravleniya Goskomiteta Soveta Ministrov SSSR po  
avtomatizatsii i mashinostroyeniyu.  
(Refrigeration and refrigerating machinery)

*Gorbunov, M.A.*

112-2-4763

TRANSLATION FROM: Referativnyy zhurnal, Elektrotehnika, 1957,  
Nr 2, p. 327 (USSR)

AUTHOR: Gorbunov, M.A.

TITLE: Pulse-Method Investigation of Ultrasonic Wave Absorption  
in Benzyl Alcohol (Issledovaniye pogloshcheniya ul'tra-  
zvukovykh voln v benzilovom spirte impul'snym metodom)

PERIODICAL: Sbornik stud. nauch. rabot po yestestv.-matem. tsiklu,  
Mosk. obl. ped. in-t. 1956, Nr 1, pp. 39-56

ABSTRACT: A method of measuring and an apparatus, in particular an ultrasonic pulse unit, are described in detail. Diagrams of the electronic part of the installation are given and the operation of its basic units are described in detail. The measurements were made on the 6.4 and 11.6 mc frequencies in the temperature interval - 17° to + 40°. It was established that as the temperature rises, absorption [of ultrasonic sound waves] in benzyl alcohol decreases. Beginning with room temperatures, a relatively slow drop in the absorption factor is observed as temperature rises. At temperatures close to the freezing point, the absorption factor sharply rises. It was demonstrated that for benzyl

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Pulse-Method Investigation of Ultrasonic Wave (Cont.) 112-2-4763

alcohol the frequency relation const. =  $\frac{a}{\sqrt{T}}$  is valid. Measurements of the speed of ultrasonic waves in the -12 to +17° temperature interval were made. It was established that the velocity declines linearly as the temperature rises. An attempt is made to explain the absorption observed on the basis of the molecular structure of liquids and compounds. The preeminent role in the absorption of ultrasonic waves of the OH alcohol group in benzyl alcohol is pointed out.

L.M.L.

ASSOCIATION: Moscow Oblast Pedagogical Institute (Mosk. obl. ped. in-t)

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